

**HARDWARE-ASSISTED METHOD FOR THREAD SCHEDULING
USING DATA CACHE LOCALITY**

ABSTRACT OF THE DISCLOSURE

A method is provided for scheduling threads in a multi-processor system. In a first structure thread ids are stored for threads associated with a context switch. Each thread id identifies one thread. In a second structure entries are stored for groups of contiguous cache lines. Each entry is arranged such that a thread id in the first structure is capable of being associated with at least one contiguous cache line in at least one group, the thread identified by the thread id having accessed the at least one contiguous cache line. Patterns are mined for in the entries to locate multiples of a same thread id that repeat for at least two groups. Threads identified by the located multiples of the same thread id are mapped to at least one native thread, and are scheduled on the same processor with other threads associated with the at least two groups.